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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,899	07/09/2003	Seong Soo Jang	CU-3282 RJS	9848
26530	7590	04/06/2006	EXAMINER	
LADAS & PARRY LLP 224 SOUTH MICHIGAN AVENUE SUITE 1600 CHICAGO, IL 60604			KORNAKOV, MICHAIL	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/615,899	JANG ET AL.	
	Examiner	Art Unit	
	Mikhail Kornakov	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/27/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claim 1 has been amended to remove the step of preparing reaction unit and identifying in preamble the nature of contamination in the chamber. Further amendment to claim 1 includes using both nitrogen and hydrogen gases, while initially presented claim allowed the use of one of the gases. Claim 1 also includes using Argon in addition to combination of nitrogen and hydrogen.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ameen et al (U.S. 6,635,569).

Ameen teaches a method of stabilizing CVD process chamber comprising the steps of treating the process chamber with of chlorine-containing gas and exposing the components of the chamber to a plasma formed in a mixture of argon, hydrogen and ammonia gases, wherein the contents of hydrogen containing gas, nitrogen containing gas and argon gas in the gaseous mixture correspond to the claimed parameters (paragraph, bridging col.8 and 9; col.10, lines 20-66; col.11, lines 1-35). Ammen does not expressly teach the combination of nitrogen hydrogen and argon as appears in the presently amended claim 1. However, in the abstract of Ameen's disclosure it is clearly stated that preferably N_2 and NH_3 are introduced when the wafer passivation and reactor stabilization are performed simultaneously. (4-th line from the bottom of the abstract). Thus, Ameen teaches equally beneficial use of N_2 and NH_3 , and in the instant case substitution of equivalent methods requires no express motivation, as long as the

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prior art recognizes equivalency, *In re Fount* 213 USPQ 532 (CCPA 1982); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *Graver Tank & Mfg. Co. Inc. V. Linde Air products Co.* 85 USPQ 328 (USSC 1950)., therefore one skilled in the art would have used either ammonia OR nitrogen with the reasonable expectation of success. It is further noted that Ameen clearly teaches the selection of stabilizing gas that includes one of Nitrogen or Ammonia (col.10, lines 55-60). With regard to the ratio of Argon , as per claim 1, nitrogen as per claim 11, hydrogen +argon in claim 12, it is noted that It is understood that 50-90% of argon is relative to the sum of gases, and as such, Ameen teaches the rate of Ar relative to the rate of hydrogen (col.8, lines 5-16). He discloses the rates of gases flows as result effective variables, therefore, as per In re Boesch and Slaney 205 USPQ 215 (CCPA 1980) discovery of optimum value of result effective variable in known process is ordinarily within the skill in the art and would have been obvious.

3. Claims 1, 11, 12 are rejected under 35 U.S.C. 35 U.S.C. 103(a) as being unpatentable over Moon et al (U.S. 2004/0013818) in view of Ameen et al (U.S. 6,635,569).

Moon teaches a method of cleaning a CVD chamber comprising the steps of treating the chamber with chlorine gas and treating the chamber with plasma produced from a gaseous mixture of hydrogen gas and nitrogen gas or ammonia gas in the ratios as instantly claimed, see [0003,0018,0019,0021,0038,0043,0045,0052,0053,0055].

While indicating that argon is used as plasma ignition gas [0038], Moon remains

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silent about argon content, as specified in the instant claims. However, the recited argon content is utilized in the art for maintaining plasma while treating CVD chambers with gaseous mixtures identical to the instantly claimed. Thus, Ameen teaches similar method of treatment a CVD chamber, utilizing plasma produced from hydrogen and nitrogen gaseous ingredients identical to those of Moon and wherein argon is added to the gaseous mixture in the amount to provide the stable plasma processing. Therefore, one skilled in the art motivated by Moon and Ameen would have found obvious to utilize argon in proportion suggested by Ameen in order to stabilize plasma while treating CVD chamber as per teaching of Moon and thus to arrive at the limitations as instantly claimed.

Response to Arguments

4. Applicant's arguments with respect to claims 1, 11, 12 with regard to Ameen reference have been considered but are moot in view of the new ground(s) of rejection. It is also noted that in response to Applicants' request the columns and lines wherein the claimed gases are used are indicated in the office action.

5. Applicant's arguments filed 01/23/2006 with regard to Moon reference have been fully considered but they are not persuasive. With regard to Moon reference, it is noted that Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

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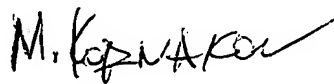
6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mikhail Kornakov whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1306. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "M. Kornakov", with a long horizontal stroke extending to the right.

Mikhail Kornakov
Primary Examiner
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April 1, 2006